

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of identifying a compound that modulates ~~an immune response cell activation via a pathway that does not involve NFATp or NFAT4, response~~ comprising:

a) contacting immune cells obtained from a mouse deficient in NFATp and NFAT4, wherein the phenotype of the mouse is characterized by increased Th2 cytokine production, with a test compound; and

b) determining the effect of the test compound on the activation of immune cells, the test compound being identified as a modulator of ~~an immune response cell activation via a pathway that does not involve NFATp or NFAT4,~~ based on the ability of the test compound to modulate the activation of immune cells obtained from a mouse deficient in NFATp and NFAT4, to thereby identify a compound that modulates immune cell activation via a pathway that does not involve NFATp or NFAT4.

2-31. (Canceled)

32. (Currently Amended) A transgenic mouse comprising in its genome a first exogenous ~~nucleic acid~~ DNA molecule that functionally disrupts a NFATp gene of said mouse and a second exogenous ~~nucleic acid~~ DNA molecule that functionally disrupts a NFAT4 gene of said mouse.

33. (Currently Amended) The transgenic mouse of claim 32, 49, and 52, wherein the phenotype of said mouse is characterized by lymphadenopathy relative to a wild-type mouse.

34. (Currently Amended) The transgenic mouse of claim 32, 49, and 52, wherein the phenotype of said mouse is characterized by splenomegaly relative to a wild-type mouse.

35. (Currently Amended) The transgenic mouse of claim 32, 49, and 52, wherein the phenotype of said mouse is characterized by ~~blepharitis~~ blepharitis relative to a wild-type mouse.

36. (Currently Amended) The transgenic mouse of claim 32, 49, and 52, wherein the phenotype of said mouse is characterized by interstitial pneumonitis relative to a wild-type mouse.

37. (Currently Amended) The transgenic mouse of claim 32, 49, and 52, wherein said mouse displays an increase in peripheral T cells relative to a wild-type mouse.

38. (Currently Amended) The ~~transgenic~~ transgenic mouse of claim 37, wherein said peripheral T cells have a memory/activated phenotype relative to a wild-type mouse.

39. (Currently Amended) The transgenic mouse of claim 32, 49, and 52, wherein said mouse displays ~~compromised~~ reduced FasL expression relative to a wild-type mouse.

40. (Previously Presented) The transgenic mouse of claim 39, wherein said mouse displays defective apoptosis relative to a wild-type mouse.

41. (Currently Amended) The transgenic mouse of claim 32, 49, and 52, wherein said mouse displays increased Th2 cytokine production relative to a wild-type mouse.

42. (Previously Presented) The transgenic mouse of claim 41, wherein said Th2 cytokine is IL-4.

43. (Previously Presented) The transgenic mouse of claim 42, wherein said mouse displays increased expression of IL-4 dependent immunoglobulin isotypes.

44. (Previously Presented) The transgenic mouse of claim 43, wherein said immunoglobulin isotypes are IgG1 and IgE.

45. (Currently Amended) A method for identifying a test compound that ~~regulates Th2 cell activity~~ modulates immune cell activation via a pathway that does not involve NFATp or NFAT4 comprising:

a) ~~providing:~~

i) administering said test compound to a first transgenic mouse ~~first and second transgenic mice~~ comprising a genome deficient in NFATp and NFAT4;
~~and~~

~~ii) a composition comprising said test compound; and~~

b) administering an appropriate control compound to a second transgenic mouse comprising a genome deficient in NFATp and NFAT4, wherein the phenotype of the first transgenic mouse and the second transgenic mouse is characterized by increased Th2 cytokine production. ~~administering said test compound to said first transgenic mouse; and~~

c) evaluating Th2 cell activity in said first transgenic mouse relative to Th2 cell activity in said second transgenic mouse to thereby identify a compound that ~~regulates Th2 cell activity~~ immune cell activation via a pathway that does not involve NFATp or NFAT4.

46. (Currently Amended) The method of claim 45, wherein said test compound is ~~at least one~~ a ~~peptidic~~ compound derived from the calcineurin-interacting region of NFATp or NFAT4.

47. (Previously Presented) The method of claim 45, wherein said test compound comprises the amino acid sequence of SEQ ID NO: 1.

48. (Previously Presented) The method of claim 45, wherein said peptidic compound comprises the amino acid sequence of SEQ ID NO: 2 or SEQ ID NO: 3.

49. (Currently Amended) A method for producing a transgenic mouse, wherein said mouse exhibits a phenotype characterized by increased Th2 cytokine production relative to a corresponding wild-type mouse, comprising:

~~a) providing~~ (1) introducing an exogenous DNA molecule comprising at least a portion of a NFATp gene into a mouse embryonic stem cell such that the wild-type NFATp gene of

the embryonic stem cell is functionally disrupted; (2) introducing said transgenic mouse embryonic stem cell into a pseudopregnant mouse such that said pseudopregnant mouse produces at least one offspring comprising a functionally disrupted NFATp gene; embryonic stem cell comprising wild-type NFATp and NFAT4 genes; (2) a pseudopregnant mouse; and (3) an exogenous nucleic acid molecules comprising at least a portion of NFATp and a NFAT4 gene, said portion comprising one or more deletions in one or more exons of said NFATp and NFAT4 genes;

b) introducing an exogenous DNA molecule comprising at least a portion of a NFAT4 gene into a mouse embryonic stem cell such that the wild-type NFAT4 gene of the embryonic stem cell is functionally disrupted; (4) introducing said transgenic mouse embryonic stem cell into a pseudopregnant mouse such that said pseudopregnant mouse produces at least one offspring comprising a functionally disrupted NFAT4 gene; introducing said nucleic acid molecules into said embryonic stem cell under conditions such that said nucleic acid molecule functionally disrupts at least one of said wild-type NFATp and NFAT4 genes in the genome of said embryonic stem cell to produce a transgenic embryonic stem cell; and

c) introducing said transgenic embryonic stem cells into said pseudopregnant mouse under conditions such that said pseudopregnant mouse produces progeny comprising a functionally disrupted NFATp gene and a functionally disrupted NFAT4 gene.

; and

(5) mating said at least one offspring with a functionally disrupted NFATp gene with said at least one offspring with a functionally disrupted NFAT4 gene and identifying subsequent offspring with both a functionally disrupted NFATp gene and a functionally disrupted NFAT4 gene.

50. (Currently Amended) A murine mouse transgenic cell comprising a disrupted NFATp gene and a disrupted NFAT4 gene.

51. (Currently Amended) The murine mouse transgenic cell of claim 50, wherein said cell is selected from the group consisting of fertilized egg cells, embryonic stem cells and lymphoid cells.

52. (New) A method for producing a transgenic mouse with a functionally disrupted NFATp gene and a functionally disrupted NFAT4 gene, wherein said mouse exhibits a phenotype characterized by increased Th2 cytokine production, comprising:

mating a transgenic mouse with a functionally disrupted NFATp gene with a transgenic mouse with a functionally disrupted NFAT4 gene and identifying subsequent progeny with both a functionally disrupted NFATp gene and a functionally disrupted NFAT4 gene, to thereby produce a transgenic mouse with a functionally disrupted NFATp gene and a functionally disrupted NFAT4 gene .